

Product Data Sheet

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Identification no.

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Version 1

Sika® Retarder VZ-1

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Phosphate retarder with no side-effects

Product Description	Sika Retarder VZ-1 is used to increase the workability time of concrete.	
Field of Application	<ul style="list-style-type: none"> - For large monolithic components, e.g. bridges, foundations - Ready-mixed concrete - Concreting in warm weather - Shotcrete 	
Advantages	<p>Sika Retardant VZ-1 can be used to:</p> <ul style="list-style-type: none"> ▪ temporarily shield the cement from the mixing water ▪ slow down the formation of reaction products, which lead to setting and hardening ▪ keep the concrete cool for longer <p>and in the case of mortar and concrete:</p> <ul style="list-style-type: none"> ▪ there is longer workability ▪ there is a smaller increase in concrete temperature ▪ there is a lower likelihood of cracks owing to temperature stresses 	
Testimonials		
Test Results	<ul style="list-style-type: none"> - Complies with EN 934-2 Table 8 (Retardants) - Complies with DIN V 18 998 - Can be used in concrete with tension elements - Complies with the provisions of ZTV-ING - Satisfies KTW recommendations - Can be used in all EU countries 	
Product Data		
Type		
Colour	Light red liquid	
Supplied State	Barrel	220 kg
	Transportation container	1000 kg
	Bulk	from 6 t
Storage		
Storage conditions/Shelf life	<p>Can be stored for at least 12 months in sealed containers. Stir before use if stored for prolonged periods.</p> <p>Store away from frost, direct sunlight and contaminants.</p> <p>If supplied in bulk, use clean tanks and containers.</p>	

Technical Data	
Chemical Basis	Phosphate
Density	1.25 g/cm ³ at 20 °C
pH Value	Approx. 10
Chloride content	≤ 0.10 %
Alkaline Content	Na ₂ O equiv. ≤ 15 %
System Data	
Processing Instructions	
Quantities	0.2-2.5 % of the cement weight

Standard quantities for concrete with CEM II/B-S and CEM III/A

Concrete temperature in °C	Amount of VZ 1 as % of the cement weight for a workability time of the concrete of hours							
	3	5	7	9	12	15	18	21
10	-	-	0.20	0.30	0.35	0.40	0.50	0.70
15	-	-	0.25	0.35	0.45	0.60	0.75	1.00
20	-	0.20	0.30	0.40	0.60	0.80	1.00	1.40
25	-	0.25	0.40	0.60	0.90	1.30	1.80	2.50
30	0.20	0.30	0.50	0.70	1.2	1.80	2.50	-

The specified amounts should be increased by 50 % with CEM I 32.5 R and by 100 % with CEM I 42.5 R

Instructions for Use	
Addition	<p>Add to the concrete mix at the same time as the mixing water.</p> <p>The action of Sika Retardant VZ-1 is highly dependent on the type of cement, temperature and water/binder value.</p> <p>Retarded concrete is more prone to shrinkage cracks than non-retarded concrete. Careful curing over a sufficient period of time is thus required.</p>
Working Methods	<p>Initial inspection in accordance with ÖNORM B 4710-1 is required before use.</p> <p>General rules regarding satisfactory production and working of concrete in accordance with approved standards should, of course, be followed when using Sika Retardant VZ-1.</p>
Setting Conditions	
Curing	Concrete curing should start immediately in order to prevent drying out, which may cause damage. This may be achieved by

covering the concrete with sheeting or the like, spraying it with a curing compound (Sika Antisol or Sika Antisol E) or by moist curing. However, care should be taken not to use so much water that the concrete is eroded.

Safety Instructions

Important Safety Information

For detailed information please view the current safety data sheet at www.sika.at

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